5555 Glenwood Hills Parkway, SE, Post Office Box 874, Grand Rapids, Michigan 49588-0874

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11/8/96

November 8, 1996

Leah Evison, RPM
U.S. Environmental Protection Agency
77 West Jackson Blvd. (SR-6J)
Chicago, IL 60604

RE: Review of Pre-Design Studies Report, Albion-Sheridan Township Landfill, Native Species Revegetation Study, Dated October 14, 1996

Dear Leah:

We have reviewed the *Pre-Design Studies Report, Albion-Sheridan Township Landfill* prepared by Woodward-Clyde Consultants (October 14, 1996) and have the following comments.

Telephone
616.942.9600
Facsimile
616.942.6499

Page 1-2, Section 1.1.4, Ground water Sampling, second bullet:

The Project Plans state that Eh will be measured in the field at the time of sample collection. Please indicate whether Eh was included in the measurement of field parameters and/or explain why it was not measured.

Page 2-2, Section 2.1, Monitoring Well Installation, last paragraph:

This paragraph states that details concerning well development were recorded in a bound field log book or on well data sheets. The well data sheets are enclosed in Appendix A of the report. If there are additional details documented in the bound field log book that are not on the well data sheets, copies of the log book should also be appended in the report or the information conveyed in some other format.

Page 2-2, Section 2.2.1, Ground water sampling, second paragraph:

Please describe the details regarding measurement of the field parameters. A description of the actual field methods used is necessary because the results can vary depending on how the results were obtained. In order to accurately compare the results of field measurements to previous or future results, the methods of obtaining the results must be consistent. For example, the values of dissolved oxygen or Eh measured inside of a well can be significantly different than the values obtained for ground water purged from the same well.

Page 3-2, Section 3.2.1, Unconsolidated Sediment Monitoring Well Sampling (Table 2):

This section references Table 2, which is a summary table for field measurements obtained from wells screened in the unconsolidated aquifer. Table 2 lists Dissolved Oxygen (mV) as well as % DO (DO presumably stands for dissolved oxygen). The values in these two columns do not correlate well with each other if both are actually measurements of dissolved oxygen. Furthermore, dissolved oxygen is not measured in millivolts (mV); however, the values for Eh are typically reported in mV. Was Eh measured? Please clarify.

Page 3-2, Section 3.2.2, Bedrock Monitoring Well Sampling (Table 3):

Similar comment as above, regarding Table 3.

3.3 Analytical Results:

Leah, they have not included Michigan Part 201 criteria on this table. I am unclear with regards to this subject, they need to use the criteria in the ROD correct? Not the latest criteria.

Page 3-6, Section 3.5.1, Results, second paragraph:

This paragraph indicates that observations were made regarding the composition of the excavated material. The composition is described for the areas north and east of leachate monitoring well LF-1, but the waste encountered in test pit excavations on the major portion of the landfill are described only as industrial and household waste. A more detailed description of the waste would be appropriate, or reference the field notes to be attached.

Section 3.5.1 Results, third paragraph:

This paragraph mentions that the bottom extent of waste was located in three of the eight test pits that were excavated, but the table below the paragraph suggests that the bottom was encountered in four test pits. In which test pits was the bottom of the waste material encountered?

Page 4-1, Section 4, Native Species Revegetation Studies Results

General Comments

1. The objective of this section of the pre-design study was to "determine if seeding of the vegetative soil layer on the surface of the landfill with native species is practical and cost effective considering both long-term and short-term costs." The study concluded that "the feasibility of revegetation the landfill cap at ASTL with native species has substantial merit." Table 6 of the study includes some specific cost estimates and comparisons to support this conclusion. These estimates are apparently based on a limited review of literature. The cost comparison indicates that seeding with native grasses and subsequent maintenance would have a lower total cost than other alternatives.

2. The study recommends a five-year monitoring period during which costs and activities would be documented. Presumably this information would help with similar evaluations at other sites. It is not clear if this monitoring is included in the cost analysis.

3. The study should note that some native wildflowers have extremely deep root systems and may not be appropriate for landfills because these roots may penetrate the landfill cap.

4. It may be worth noting that there are native grasses growing along the railroad immediately south of the landfill.

Specific Comments

Page 4-2, Section 4.1.3, paragraph 1. Here the study states native plants are intended to include only grasses. In Section 4.1.4, first paragraph after the bullets and paragraph 3 of this section, the study indicates that native wildflowers could be included. Paragraph 4 in this section indicates small percentage of forbes could be included with the grasses. Section 4.1.5, paragraph 2 indicates the vegetative cover will consist of a mix of grasses. The seed mixture specified in Section 4.1.5.2 indicates only grasses will be planted. It is not clear what will be planted and this should be clarified.

Page 4-2, Section 4.1.3, paragraph 2. There may not be a source of native grass seed in commercial quantities in Michigan. There are commercial sources of native grass seed in Wisconsin, and there are sources of native wildflower seed in Michigan.

Page 4-2, Section 4.1.4. This section should be clarified to indicate that the environmental benefits of use of native plants are in relation to use of non-native traditional landfill cap vegetation.

Page 4-3, Section 4.1.5. The study suggests using a temporary vegetative cover of annual and short-lived grasses to control erosion and hinder growth of weedy species while the native species become established. This is a good idea. Annual wildflowers could also be included in the seed mix to help suppress weeds and provide some attractive cover while the annuals are becoming established.

Page 4-5, Section 4.2 Gas Emissions Study

General Comments

Leah, the gas generation rate is reported in Milliongrams/years (Mg/yr).

It appears that the investigators made conservative assumptions with regard to the volume of waste and the filling sequence. We concur with that approach.

The homes are awfully close to the landfill. EARTH TECH does support passive gas extraction. However, in the event there are odors or emissions concentrations above risk levels from a particular vent, that vent can be addressed on an individual basis.

Page 4-6, Section 4.2.2.1, last paragraph

Could you please discuss the reasoning for selecting the particular model and equation used for the study?

Page 4-8, Excavation Activities

Why was the source area assumed to be 150 feet from the fence line? Why not at the eastern fence line, which would likely be the worst case scenario?

Pages 5-1 and 5-2, Section 5.0

The summary presented in Section 5 should be revised to incorporate changes consistent with changes to the previous test.

Figures

Figures 2 through 5:

The monitoring well labeled as MW04SG should be labeled MW04DB.

Figure 3, Shallow Glacial Groundwater Contour Map, August, 1996:

The water level for the MW04 well cluster location is probably from MW04SG(WB), which is screened in the weathered bedrock not the unconsolidated aquifer.

Tables

Table 2, Unconsolidated Material Monitoring Well Field Parameter Summary:

See the comment for Page 3-2, Section 3.2.1. Also, the data for MW04SG is likely for MW04SG(WB) which is screened in weathered bedrock not the unconsolidated material, and should be included on Table 3.

Table 3, Bedrock Monitoring Well Field Parameter Summary:

See the comment for Table 2 above.

Table 4, Unconsolidated Material Monitoring Well Analytical Summary, Page 2 of 4:

The data for monitoring MW04SG is likely for MW04SG(WB) which is screened in weathered bedrock not the unconsolidated material, and should be included on Table 5. There is a more current Drinking Water Regulations and Health Advisory. Please use it.

The MCL is not listed on the table for bis (2-ethylhexyl) phthalate.

Table 5, Bedrock Monitoring Well Analytical Summary:

The data for monitoring well MW04SG(WB) should be included on Table 5.

The MCL is not listed on the table for bis (2-ethylhexyl) phthalate.

Appendix B

Leah, the data validation appears to be reasonable. With regards to zinc contamination on Page 10, I looked up what concentrations the RI had detected. They are as follows:

MW02SB (Non detect in 12/92 and 3/93). Therefore, it is probably reasonable to qualify this concentration with a "U".

MW04SB (Non detect in 12/92 and 66.9 ug/l in 3/93). We probably need to stress to the PRPs to convey to their laboratory to pay particular attention to zinc next time. Although, there is no MCL for zinc.

Table B-2 - Please add bis(2-ethyl hexyl) phthalate to this table.

Please call if you have any questions.

Very truly yours,

EARTH TECH, Inc.

Elizabeth A. Bartz

Elizabeth Bartz
Project Manager

cc: Glenn Hendrix, EARTH TECH
Jeff Cargill, EARTH TECH
Robert Masselink, EARTH TECH
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